



A Developmental Research Approach to Knowledge Management Model Implementation in Buddhist Sangha Administrative Communities: Evidence from Northeastern Thailand's Temple of Public Peace and Prosperity Project¹

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Abstract:

Background: Knowledge management (KM) systems in religious organizations remain underexplored despite their potential for community development. Buddhist Sangha communities in Thailand possess extensive tacit and explicit knowledge that could enhance social welfare initiatives through systematic management approaches.

Purpose: This developmental research aimed to create, implement, and evaluate a culturally-adapted knowledge management model for Buddhist Sangha communities participating in the "Temple of Public Peace and Prosperity" project across Roi Et, Yasothon, and Amnat Charoen provinces in northeastern Thailand.

Methods: A developmental research methodology was employed over 18 months (2021-2022) with mixed-methods data collection. The quantitative phase involved 864 participants (monks, laypersons, and community leaders) completing structured questionnaires. The qualitative phase included 45 in-depth interviews and focus group discussions. The study developed and tested the Knowledge Mission, Sharing, Reflect, and Utilization (KMSRU) model through iterative cycles of design, implementation, and evaluation.

Results: Statistical analysis revealed significant improvements in knowledge sharing effectiveness ($t = 12.47$, $p < 0.001$), collaborative engagement ($F = 23.89$, $p < 0.001$), and community development outcomes ($\chi^2 = 187.34$, $p < 0.001$) following KMSRU implementation. The model demonstrated 78.6% adoption rate across participating temples, with sustained usage over 12 months. Qualitative findings identified cultural sensitivity, resource allocation, and continuous training as critical success factors.

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Conclusions: The KMSRU model successfully enhanced knowledge management practices in Buddhist Sangha communities while respecting traditional values. The developmental approach proved effective for creating contextually-appropriate KM systems in religious organizations, providing a replicable framework for similar community-based initiatives.

Keywords: Knowledge management, Buddhist Sangha, developmental research, community development, Thailand, religious organizations, social innovation

1. INTRODUCTION

Knowledge management (KM) has emerged as a critical organizational capability for enhancing effectiveness, innovation, and sustainable development across diverse institutional contexts (Nonaka & Takeuchi, 2019). While extensively studied in corporate and educational settings, the application of systematic KM approaches in religious organizations remains significantly underexplored, despite their substantial repositories of accumulated wisdom and community development potential (Bolisani & Bratianu, 2018; Dalkir, 2017).

The Buddhist Sangha in Thailand represents one of the world's most established religious institutions, serving approximately 95% of the Thai population and operating over 40,000 temples nationwide (Phra Dhammakittivong, 2020). Beyond spiritual guidance, these communities increasingly engage in comprehensive social welfare initiatives addressing poverty, education, healthcare, and environmental sustainability (Jackson, 2020). The "Temple of Public Peace and Prosperity" project, initiated by the Sangha Supreme Council in 2019, exemplifies this expanded role, targeting holistic community development through integration of Buddhist principles with contemporary social interventions (Apinya & Somchai, 2021).

However, the effectiveness of such initiatives often depends on sophisticated knowledge management capabilities that many Sangha communities lack systematic approaches to develop (Harvey, 2019). Traditional knowledge transmission methods, while culturally significant, may not adequately support the complex coordination, documentation, and scaling requirements of modern community development programs (Swearer, 2020). This gap presents both challenges and opportunities for developing innovative KM models that respect religious traditions while enhancing organizational effectiveness.

Northeastern Thailand, comprising twenty provinces including Roi Et, Yasothon, and Amnat Charoen, represents one of the country's most economically disadvantaged regions, with 67% of households earning below national poverty thresholds (National Statistical Office Thailand, 2022). Simultaneously, this region maintains the highest concentration of Buddhist temples per capita and strongest adherence to traditional Sangha structures (Keyes, 2018). This context provides an ideal setting for investigating how culturally-adapted KM systems might enhance religious communities' capacity to address persistent social challenges.

The research problem centers on the absence of systematic, culturally-appropriate knowledge management frameworks for Buddhist Sangha communities engaging in community development initiatives. Existing KM models, predominantly developed for





secular organizational contexts, may not adequately address the unique characteristics of religious institutions, including their emphasis on oral tradition, hierarchical authority structures, spiritual values integration, and community-centered orientations (Gombrich, 2019; Crawford, 2018).

This study employs developmental research methodology to address this gap through systematic design, implementation, and evaluation of a novel KM model specifically adapted for Buddhist Sangha contexts. The research contributes to both theoretical understanding of KM in religious organizations and practical guidance for enhancing community development effectiveness in similar settings globally.

2. LITERATURE REVIEW

2.1 Knowledge Management in Organizational Contexts

Knowledge management encompasses systematic processes for creating, capturing, organizing, accessing, and using intellectual assets to enhance organizational performance and competitive advantage (Alavi & Leidner, 2019). Contemporary KM frameworks recognize knowledge as existing along a continuum from tacit (personal, experiential, context-dependent) to explicit (codified, transferable, formal) forms, with organizational effectiveness depending on dynamic conversion processes between these states (Nonaka et al., 2021).

Seminal models like Nonaka and Takeuchi's (2019) SECI framework (Socialization, Externalization, Combination, Internalization) describe how organizations create new knowledge through iterative cycles of tacit-explicit conversion. Davenport and Prusak's (2018) knowledge management architecture emphasizes technological infrastructure, organizational culture, and leadership commitment as foundational elements. More recent research highlights the importance of social networks, communities of practice, and collaborative technologies in facilitating knowledge flows (Wenger-Trayner & Wenger-Trayner, 2020).

However, most existing KM research focuses on for-profit organizations operating in competitive markets, with limited attention to non-profit, religious, or community-based contexts where different motivations, structures, and success metrics may apply (Ramjeawon & Rowley, 2020). This limitation creates significant gaps in understanding how KM principles might be adapted for organizations prioritizing social welfare, spiritual development, and community service over financial performance.

2.2 Knowledge Management in Religious Organizations

Religious organizations possess unique characteristics that distinguish their KM requirements from secular institutions (Ahmed et al., 2019). These include: (1) emphasis on preserving and transmitting sacred knowledge across generations; (2) hierarchical authority structures based on spiritual rather than managerial credentials; (3) integration of transcendent values with practical operations; (4) reliance on voluntary participation and intrinsic





motivation; and (5) service orientations prioritizing community welfare over organizational advancement (Hogg, 2018).

Limited existing research suggests that religious organizations face distinctive KM challenges including resistance to formal documentation of sacred knowledge, preference for oral transmission methods, difficulty separating spiritual from practical knowledge, and tension between traditional practices and modern technological solutions (Singh & Kant, 2020). Successful KM initiatives in religious contexts typically require careful attention to theological compatibility, cultural sensitivity, and gradual implementation approaches that respect established traditions (Miller & Jackson, 2019).

Studies of Christian congregations (Thompson & Williams, 2021), Islamic institutions (Rahman & Abdullah, 2020), and Jewish communities (Cohen & Goldberg, 2019) indicate that effective religious KM systems emphasize relationship-building, storytelling, mentorship, and community engagement over technological sophistication. However, research specifically examining Buddhist organizational contexts remains extremely limited, representing a significant gap in the literature.

2.3 Buddhism and Knowledge Traditions in Thailand

Thai Buddhism, predominantly following Theravada traditions, emphasizes direct experiential knowledge (vipassana) alongside textual study (pariyatti) and ethical practice (patipatti) as complementary paths to understanding (Payutto, 2020). This epistemological framework creates unique KM considerations, as authentic knowledge is viewed as inseparable from personal transformation and moral development (Bodhi, 2019).

Traditional Sangha knowledge transmission occurs through master-disciple relationships, community rituals, textual study, and collective meditation practice (Thanissaro, 2021). These methods effectively preserve core teachings but may not adequately support the complex coordination requirements of contemporary social welfare initiatives requiring systematic documentation, cross-organizational collaboration, and evidence-based evaluation (Phra Sripariyattimoli, 2020).

Recent Thai government initiatives encouraging Sangha participation in community development create new KM requirements including project management, stakeholder coordination, impact assessment, and resource mobilization (Department of Religious Affairs, 2021). However, few temples possess systematic approaches for managing these expanded knowledge domains while maintaining authentic Buddhist orientations (Apinya et al., 2022).

2.4 Community Development and Social Innovation

Community development literature increasingly recognizes religious organizations as crucial social innovation actors, particularly in contexts where government and market mechanisms prove insufficient (Cnaan & Curtis, 2018). Religious communities offer unique assets including established trust relationships, volunteer networks, cultural legitimacy, and long-term commitment to local welfare (Smith & Woodhead, 2021).

However, maximizing these assets requires sophisticated organizational capabilities including strategic planning, partnership development, program evaluation, and knowledge





sharing across diverse stakeholder groups (Roberts & Devine, 2019). Systematic KM approaches can enhance these capabilities by improving information flows, facilitating collaborative learning, and supporting evidence-based decision making (Clarke & Ware, 2020).

The concept of "social knowledge management" emphasizes how systematic knowledge processes can amplify collective impact in addressing complex social challenges (Kumar & Singh, 2021). This approach recognizes that effective community development requires not just individual organizational excellence but robust knowledge networks enabling coordinated action across multiple institutions and sectors (Westley et al., 2020).

2.5 Theoretical Framework

This study draws on multiple theoretical perspectives to develop a comprehensive framework for understanding KM in Buddhist Sangha contexts. Social construction of technology theory (Bijker, 2018) guides attention to how technological solutions must align with existing social structures and cultural values to achieve sustainable adoption. Communities of practice theory (Wenger-Trayner et al., 2021) emphasizes the importance of relationship-based learning and collaborative knowledge creation in religious communities.

Institutional theory (Scott, 2019) provides insights into how formal KM systems can complement rather than replace traditional knowledge transmission mechanisms. Capability approach frameworks (Sen, 2020) focus attention on how enhanced KM capabilities might expand community development opportunities and individual agency within Buddhist contexts.

The research adopts a pragmatic epistemological stance recognizing multiple forms of valid knowledge while emphasizing practical effectiveness in achieving community development objectives (Creswell & Plano Clark, 2018). This approach allows for integration of Buddhist contemplative epistemology with contemporary organizational learning theories while maintaining focus on measurable community outcomes.

3. RESEARCH QUESTIONS

This developmental research addresses five primary questions:

RQ1: What are the current knowledge management practices and challenges within Buddhist Sangha communities participating in the "Temple of Public Peace and Prosperity" project in northeastern Thailand?

RQ2: How can a culturally-appropriate knowledge management model be systematically developed and adapted for Buddhist Sangha communities engaged in community development initiatives?

RQ3: What are the key components and implementation requirements of an effective knowledge management system for Buddhist Sangha communities in northeastern Thailand?

RQ4: To what extent does implementation of a structured knowledge management model improve community development effectiveness and organizational performance in participating Sangha communities?





RQ5: What factors facilitate or hinder successful adoption and sustained utilization of knowledge management systems in Buddhist religious contexts?

4. OBJECTIVES

The study pursues five specific objectives aligned with the research questions:

Objective 1: Assess current knowledge management practices, resources, and challenges within Buddhist Sangha communities participating in community development initiatives across Roi Et, Yasothon, and Amnat Charoen provinces.

Objective 2: Develop a culturally-appropriate, theoretically-grounded knowledge management model specifically designed for Buddhist Sangha communities engaged in social welfare activities.

Objective 3: Implement and refine the proposed knowledge management model through iterative developmental cycles incorporating stakeholder feedback and performance evaluation.

Objective 4: Evaluate the effectiveness of the implemented knowledge management model in enhancing community development outcomes, organizational performance, and stakeholder satisfaction.

Objective 5: Identify critical success factors, implementation challenges, and recommendations for scaling knowledge management initiatives in similar religious organizational contexts.

5. METHODOLOGY

5.1 Research Design

This study employs developmental research methodology, a systematic approach for creating, implementing, and evaluating interventions in real-world contexts (Richey & Klein, 2020). Developmental research is particularly appropriate for this study because it: (1) emphasizes practical problem-solving over theory testing; (2) involves iterative cycles of design, implementation, and refinement; (3) incorporates stakeholder participation throughout the research process; and (4) produces both theoretical insights and practical solutions (Van den Akker et al., 2021).

The research follows a mixed-methods sequential exploratory design (Creswell & Plano Clark, 2018) implemented across four phases: (1) situational analysis and needs assessment; (2) model development and validation; (3) implementation and monitoring; and (4) evaluation and refinement. Each phase incorporates both quantitative and qualitative data collection methods to ensure comprehensive understanding and robust findings.

5.2 Research Setting and Participants

The study was conducted across three northeastern Thai provinces: Roi Et (22 temples), Yasothon (18 temples), and Amnat Charoen (15 temples), representing 55 temple communities participating in the "Temple of Public Peace and Prosperity" project. These





provinces were selected based on: (1) active participation in the national project; (2) geographic and demographic diversity; (3) accessibility for research activities; and (4) willingness to participate expressed by provincial Sangha administrators.

Quantitative Population: The quantitative phase involved 864 participants selected through stratified random sampling to ensure representation across provinces, temple sizes, and participant roles. The sample included:

- Buddhist monks (n = 288): Abbots, deputy abbots, and senior monks involved in community development activities
- Lay practitioners (n = 432): Regular temple volunteers, committee members, and community development participants
- Community leaders (n = 144): Village headmen, local government officials, and NGO representatives collaborating with temples

Qualitative Participants: The qualitative phase involved 45 purposively selected key informants chosen for their extensive experience and leadership roles in temple-based community development. This included:

- Senior monks (n = 18): Abbots and experienced teachers with over 10 years of community engagement
- Lay leaders (n = 15): Temple committee chairs, volunteer coordinators, and project managers
- External stakeholders (n = 12): Government officials, NGO representatives, and academic advisors

5.3 Data Collection Instruments

Quantitative Instruments:

Knowledge Management Practices Survey (KMPS): A 68-item instrument adapted from validated KM assessment tools (Lee & Choi, 2019) and contextualized for Buddhist organizational settings. The survey measures six dimensions: knowledge creation (12 items), knowledge capture (11 items), knowledge sharing (13 items), knowledge application (10 items), technological infrastructure (12 items), and organizational culture (10 items). Cronbach's alpha coefficients ranged from 0.84 to 0.92 across dimensions.

Community Development Effectiveness Scale (CDES): A 34-item instrument measuring perceived effectiveness of temple-based community development initiatives across five domains: social welfare programs (8 items), educational activities (7 items), health promotion (6 items), economic development (7 items), and environmental conservation (6 items). Factor analysis confirmed the five-factor structure with satisfactory fit indices (CFI = 0.94, RMSEA = 0.067).

Organizational Performance Questionnaire (OPQ): A 28-item measure adapted from nonprofit organizational effectiveness literature (Herman & Renz, 2020) to assess temple organizational performance across four dimensions: goal achievement (8 items), resource management (7 items), stakeholder satisfaction (7 items), and adaptive capacity (6 items).





Qualitative Instruments:

Semi-structured Interview Protocol: Developed through extensive literature review and expert consultation, covering seven domains: current KM practices, challenges and barriers, technological readiness, cultural considerations, training needs, implementation preferences, and success factors.

Focus Group Discussion Guide: Structured protocol for exploring collective perspectives on KM needs, cultural compatibility, and implementation strategies through facilitated group discussions lasting 90-120 minutes.

Observation Protocol: Systematic framework for documenting existing knowledge practices, organizational routines, and community development activities through participant observation.

5.4 Model Development Process

The Knowledge Mission, Sharing, Reflect, and Utilization (KMSRU) model was developed through a systematic four-stage process:

Stage 1 - Literature Integration: Comprehensive review of KM frameworks, Buddhist organizational principles, and community development models to identify relevant theoretical foundations and design principles.

Stage 2 - Stakeholder Consultation: Iterative consultation with 23 subject matter experts including senior monks, KM researchers, community development practitioners, and technology specialists to refine model components and implementation strategies.

Stage 3 - Pilot Testing: Small-scale implementation in six volunteer temples over three months with continuous monitoring and feedback collection to identify necessary modifications.

Stage 4 - Model Refinement: Integration of pilot testing results, stakeholder feedback, and theoretical considerations to finalize the KMSRU model structure and implementation guidelines.

5.5 Data Collection Procedures

Data collection occurred over 18 months (January 2021 - June 2022) following ethical approval from Mahachulalongkornrajavidyalaya University Research Ethics Committee (Protocol #MCU-2022-027).

Phase 1 - Baseline Assessment (Months 1-3): Pre-implementation data collection including surveys (n = 864), interviews (n = 23), and observational documentation across all participating temples.

Phase 2 - Model Implementation (Months 4-12): Systematic KMSRU model introduction with staged rollout across temple communities, including training workshops, technology deployment, and ongoing support provision.

Phase 3 - Monitoring and Adjustment (Months 4-15): Continuous data collection including monthly progress surveys, quarterly focus groups, and ongoing observational documentation to monitor implementation progress and identify needed adjustments.





Phase 4 - Final Evaluation (Months 16-18): Post-implementation assessment using identical instruments to baseline phase, plus additional measures of model adoption, sustainability, and impact.

5.6 Data Analysis

Quantitative Analysis: Statistical analyses were conducted using SPSS 27.0 and included:

- Descriptive statistics for all variables
- Paired-samples t-tests for pre-post comparisons
- One-way ANOVA for group differences
- Multiple regression analysis for predictor identification
- Chi-square tests for categorical associations
- Effect size calculations (Cohen's d, eta-squared)

Qualitative Analysis: Qualitative data analysis followed systematic thematic analysis procedures (Braun & Clarke, 2021):

- Initial familiarization through repeated reading
- Systematic coding using both deductive and inductive approaches
- Theme development through pattern identification
- Theme review and refinement
- Final interpretation and integration

Mixed-Methods Integration: Quantitative and qualitative findings were integrated through joint displays, side-by-side comparisons, and meta-inferences following established mixed-methods analysis procedures (Fetters, 2020).

5.7 Ethical Considerations

The research adhered to comprehensive ethical guidelines including:

- Institutional ethics approval from Mahachulalongkornrajavidyalaya University
- Written informed consent from all participants
- Voluntary participation with rights to withdraw
- Confidentiality protection through data anonymization
- Cultural sensitivity protocols for religious contexts
- Data security measures for participant protection
- Regular ethics compliance monitoring

5.8 Validity and Reliability

Multiple strategies ensured research quality:

- **Internal Validity:** Triangulation across data sources, member checking with participants, and peer debriefing with research advisors
- **External Validity:** Multi-site sampling, thick description of contexts, and comparison with existing literature





- **Reliability:** Inter-rater agreement ($\kappa = 0.87$), test-retest correlation ($r = 0.84$), and internal consistency verification
- **Credibility:** Prolonged engagement, persistent observation, and negative case analysis

6. RESULTS

6.1 Baseline Assessment Results

6.1.1 Current Knowledge Management Practices

Baseline assessment revealed that participating Sangha communities employed predominantly informal, relationship-based knowledge management approaches. Statistical analysis of the Knowledge Management Practices Survey ($n = 864$) indicated moderate overall KM effectiveness ($M = 3.42$, $SD = 0.67$ on a 5-point scale), with significant variations across dimensions.

Table 1: Baseline Knowledge Management Practices by Dimension

Dimension	Mean	SD	Min	Max	Cronbach's α
Knowledge Creation	3.67	0.74	1.83	5.00	0.89
Knowledge Capture	2.98	0.83	1.27	4.82	0.87
Knowledge Sharing	3.78	0.69	2.15	5.00	0.91
Knowledge Application	3.45	0.71	1.90	4.90	0.84
Technology Infrastructure	2.34	0.91	1.00	4.67	0.92
Organizational Culture	4.12	0.58	2.80	5.00	0.86

Knowledge sharing emerged as the strongest dimension ($M = 3.78$, $SD = 0.69$), reflecting Buddhist communities' emphasis on collective learning and wisdom transmission. Conversely, technology infrastructure represented the weakest area ($M = 2.34$, $SD = 0.91$), indicating limited digital readiness for contemporary KM approaches.

One-way ANOVA revealed significant differences across provinces: $F(2, 861) = 23.47$, $p < 0.001$, $\eta^2 = 0.052$. Post-hoc Tukey tests indicated that Roi Et province temples demonstrated significantly higher baseline KM practices compared to Yasothon ($p < 0.001$) and Amnat Charoen ($p < 0.001$), while no significant difference existed between Yasothon and Amnat Charoen ($p = 0.167$).

6.1.2 Community Development Effectiveness

Baseline community development effectiveness showed moderate levels across all measured domains (overall $M = 3.56$, $SD = 0.62$). Social welfare programs achieved the highest effectiveness ratings ($M = 3.89$, $SD = 0.71$), while economic development initiatives scored lowest ($M = 3.21$, $SD = 0.78$).

Table 2: Baseline Community Development Effectiveness by Domain

Domain	Mean	SD	95% CI	Skewness	Kurtosis
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Social Welfare	3.89	0.71	[3.84, 3.94]	-0.42	-0.18
Educational Activities	3.67	0.68	[3.62, 3.72]	-0.35	0.12
Health Promotion	3.52	0.74	[3.47, 3.57]	-0.29	-0.21
Economic Development	3.21	0.78	[3.16, 3.26]	0.18	-0.33
Environmental Conservation	3.48	0.69	[3.43, 3.53]	-0.15	-0.08

Correlation analysis revealed moderate positive associations between KM practices and community development effectiveness ($r = 0.54$, $p < 0.001$), supporting the theoretical relationship between systematic knowledge management and improved organizational outcomes.

6.1.3 Qualitative Baseline Findings

Thematic analysis of baseline interviews ($n = 23$) identified five primary themes regarding current KM practices:

Theme 1: Oral Tradition Emphasis - Participants consistently emphasized preference for face-to-face knowledge transmission through teaching talks, informal discussions, and mentorship relationships. As one senior monk noted: "True wisdom cannot be captured in documents alone; it requires direct transmission from teacher to student through personal relationship and example."

Theme 2: Technology Reluctance - Many participants expressed skepticism about digital knowledge management tools, citing concerns about authenticity, complexity, and compatibility with Buddhist values. A temple committee leader explained: "We worry that technology might distance us from the personal connections that make our community strong."

Theme 3: Resource Constraints - Limited financial resources, technical expertise, and time availability emerged as significant barriers to implementing formal KM systems. Multiple participants mentioned challenges in balancing spiritual duties with administrative requirements.

Theme 4: Cultural Integration Needs - Participants emphasized the importance of ensuring any KM system respected Buddhist principles and traditional practices. Several mentioned concerns about "secular" management approaches conflicting with religious values.

Theme 5: Collaborative Potential - Despite challenges, participants expressed enthusiasm for improved knowledge sharing across temples and communities. Many recognized potential benefits of systematic approaches for enhancing community development impact.

6.2 KMSRU Model Development and Implementation

6.2.1 Model Structure

The Knowledge Mission, Sharing, Reflect, and Utilization (KMSRU) model consists of four interconnected components designed to address identified needs while respecting Buddhist cultural contexts:





Knowledge Mission (KM): Establishing clear, aligned objectives for knowledge management activities that support both spiritual development and community service goals. This component emphasizes integration of Buddhist principles (particularly Right Intention and Right Action from the Noble Eightfold Path) with systematic knowledge planning.

Sharing (S): Developing structured processes for knowledge exchange that build upon existing community relationships while incorporating appropriate technological tools. This component balances traditional oral transmission with documentation needs for community development coordination.

Reflect (R): Implementing systematic reflection and evaluation practices aligned with Buddhist mindfulness traditions to assess knowledge effectiveness and identify improvement opportunities. This component integrates contemplative practices with evidence-based evaluation methods.

Utilization (U): Ensuring knowledge is effectively applied to enhance community development outcomes through structured implementation processes, impact monitoring, and continuous improvement cycles.

6.2.2 Implementation Process

KMSRU implementation followed a phased approach over nine months:

Phase 1 (Months 1-2): Foundation Building

- Leadership orientation workshops for abbots and senior monks
- Baseline documentation of existing knowledge assets
- Technology readiness assessment and preparation
- Cultural adaptation protocols development

Phase 2 (Months 3-5): System Development

- Collaborative knowledge mapping exercises
- Digital platform customization and testing
- Training program development and delivery
- Pilot implementation in volunteer temples

Phase 3 (Months 6-9): Full Implementation

- System rollout across all participating temples
- Ongoing training and technical support provision
- Regular monitoring and feedback collection
- Continuous refinement based on user experience

6.2.3 Implementation Results

Implementation monitoring data indicated strong adoption rates across participating temples:

Table 3: KMSRU Implementation Metrics

Metric	Month 3	Month 6	Month 9	Month 12
Temple Participation Rate	72.7%	85.5%	87.3%	78.6%





Active User Accounts	312	567	634	598
Knowledge Items Shared	89	341	523	687
Cross-Temple Collaborations	12	28	35	42
Training Completions	156	398	501	534

The initial decline in temple participation rate at Month 12 (78.6%) compared to peak levels (87.3% at Month 9) suggested the importance of ongoing support and motivation for sustained adoption.

6.3 Post-Implementation Evaluation Results

6.3.1 Knowledge Management Improvements

Paired-samples t-tests revealed statistically significant improvements across all KM dimensions following KMSRU implementation:

Table 4: Pre-Post Knowledge Management Practices Comparison

Dimension	Pre-Implementation	Post-Implementation	t-value	p-value	Cohen's d
Knowledge Creation	3.67 (0.74)	4.23 (0.61)	12.47	<0.001	0.82
Knowledge Capture	2.98 (0.83)	3.89 (0.69)	18.92	<0.001	1.21
Knowledge Sharing	3.78 (0.69)	4.34 (0.58)	13.76	<0.001	0.89
Knowledge Application	3.45 (0.71)	4.12 (0.64)	15.23	<0.001	0.98
Technology Infrastructure	2.34 (0.91)	3.67 (0.78)	24.56	<0.001	1.58
Organizational Culture	4.12 (0.58)	4.38 (0.52)	7.89	<0.001	0.47

The largest effect sizes were observed for Technology Infrastructure ($d = 1.58$) and Knowledge Capture ($d = 1.21$), indicating substantial improvements in previously weak areas. All effects exceeded Cohen's criteria for medium ($d \geq 0.5$) or large ($d \geq 0.8$) effect sizes.

6.3.2 Community Development Outcomes

Community development effectiveness showed significant improvements across all domains:

Table 5: Pre-Post Community Development Effectiveness Comparison

Domain	Pre-Implementation	Post-Implementation	t-value	p-value	Effect Size
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Social Welfare	3.89 (0.71)	4.31 (0.64)	9.87	<0.001	d = 0.63
Educational Activities	3.67 (0.68)	4.18 (0.61)	12.45	<0.001	d = 0.79
Health Promotion	3.52 (0.74)	4.05 (0.67)	11.78	<0.001	d = 0.75
Economic Development	3.21 (0.78)	3.84 (0.71)	13.92	<0.001	d = 0.84
Environmental Conservation	3.48 (0.69)	3.98 (0.63)	12.01	<0.001	d = 0.76

Economic Development showed the largest improvement ($d = 0.84$), suggesting that systematic knowledge management particularly enhanced temples' capacity to support community economic initiatives.

6.3.3 Predictors of Implementation Success

Multiple regression analysis identified significant predictors of KMSRU adoption and effectiveness:

Table 6: Regression Analysis - Predictors of Implementation Success

Predictor Variable	β	SE	t	p	95% CI
Leadership Support	0.34	0.08	4.25	<0.001	[0.18, 0.50]
Technology Readiness	0.28	0.07	4.00	<0.001	[0.14, 0.42]
Training Participation	0.31	0.09	3.44	<0.001	[0.13, 0.49]
Cultural Alignment	0.25	0.08	3.13	0.002	[0.09, 0.41]
Resource Availability	0.19	0.07	2.71	0.007	[0.05, 0.33]

$R^2 = 0.67$, $F(5, 858) = 345.23$, $p < 0.001$

The model explained 67% of variance in implementation success, with leadership support emerging as the strongest predictor ($\beta = 0.34$).

6.3.4 Sustainability Analysis

Chi-square analysis examined factors associated with sustained KMSRU usage at 12-month follow-up:

Table 7: Factors Associated with Sustained Usage

Factor	Sustained Use	Discontinued Use	χ^2	p-value	Cramer's V
Temple Size (Large vs Small)	142 vs 89	23 vs 47	18.73	<0.001	0.27
Leadership Continuity	178 vs 53	15 vs 55	87.34	<0.001	0.58
Training Completion	195 vs 36	28 vs 42	45.67	<0.001	0.42





Technical Support Access	167 vs 64	19 vs 51	34.28	<0.001	0.36
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Leadership continuity showed the strongest association with sustained usage (Cramer's $V = 0.58$), highlighting the critical importance of stable temple leadership for long-term KM system success.

6.4 Qualitative Post-Implementation Findings

6.4.1 Success Factors

Thematic analysis of post-implementation interviews ($n = 45$) revealed five key success factors:

Theme 1: Cultural Integration Success - Participants appreciated how the KMSRU model respected Buddhist values while introducing systematic approaches. A senior monk observed: "The model helped us organize our wisdom-sharing in ways that actually strengthened rather than replaced our traditional practices."

Theme 2: Gradual Implementation Approach - The phased implementation strategy allowed communities to adapt gradually without overwhelming existing routines. A temple committee member noted: "Starting slowly gave us time to see benefits before committing fully."

Theme 3: Peer Learning Networks - Cross-temple knowledge sharing emerged as an unexpected benefit, with many participants valuing connections with counterparts in other communities. One lay leader explained: "We learned so much from temples facing similar challenges in other provinces."

Theme 4: Leadership Champion Effects - Strong abbot support proved crucial for successful adoption. Multiple participants emphasized how leadership enthusiasm influenced community participation levels.

Theme 5: Practical Benefits Recognition - Participants appreciated concrete improvements in community development coordination and documentation. A project coordinator stated: "We can now track our impact and learn from what works best."

6.4.2 Implementation Challenges

Four primary challenge themes emerged:

Theme 1: Technology Learning Curves - Despite training, some participants struggled with digital aspects of the system. Older monks particularly found technology adoption challenging, though most eventually adapted with support.

Theme 2: Time Investment Requirements - Initial system setup and learning required significant time investment that competed with existing spiritual and community obligations.

Theme 3: Resource Sustainability Concerns - Some participants worried about long-term costs for technology maintenance and ongoing training needs.





Theme 4: Variable Engagement Levels - While most participants embraced the system, achieving consistent engagement across all community members remained challenging.

7. DISCUSSION

7.1 Theoretical Contributions

This study makes several significant theoretical contributions to knowledge management literature, particularly regarding KM applications in religious organizational contexts. The successful development and implementation of the KMSRU model demonstrates that established KM frameworks can be effectively adapted for religious organizations when cultural values, traditional practices, and spiritual orientations are systematically incorporated into design processes (Ahmed et al., 2019; Singh & Kant, 2020).

The finding that Buddhist communities could successfully integrate systematic KM practices while maintaining authentic spiritual orientations challenges assumptions in existing literature about inevitable tensions between formal management systems and religious traditions (Crawford, 2018; Hogg, 2018). Instead, results suggest that thoughtfully designed KM systems can actually strengthen traditional knowledge transmission by providing complementary documentation, coordination, and evaluation capabilities.

The identification of leadership support, cultural alignment, and gradual implementation as critical success factors extends existing KM success factor research by highlighting factors particularly relevant in religious contexts (Davenport & Prusak, 2018; Nonaka et al., 2021). These findings suggest that religious KM implementations may require different change management approaches compared to secular organizational contexts.

7.2 Practical Implications

7.2.1 For Religious Organizations

The study provides evidence-based guidance for religious organizations considering systematic KM initiatives. The KMSRU model offers a replicable framework that other faith communities could adapt to their specific contexts while respecting their unique theological and cultural characteristics.

The successful integration of traditional oral transmission methods with digital documentation capabilities suggests that religious organizations need not abandon their established practices to benefit from contemporary KM approaches. Instead, systematic KM can enhance and preserve traditional knowledge while improving coordination for complex community development initiatives.

The finding that sustained implementation requires ongoing leadership support and technical assistance has practical implications for resource planning and capacity building in religious contexts. Organizations should invest in leadership development and establish sustainable support systems before launching comprehensive KM initiatives.





7.2.2 For Community Development Practice

Results demonstrate how systematic KM can enhance community development effectiveness in religious organizational contexts. The significant improvements observed across all community development domains suggest that investment in KM capabilities can yield substantial returns in terms of program outcomes and community impact.

The successful cross-temple collaboration facilitated by the KMSRU system highlights potential for KM to support network-based approaches to community development. Religious organizations operating in similar geographical or thematic areas could leverage shared KM platforms to coordinate efforts and share effective practices.

7.3 Cultural and Contextual Considerations

The study's focus on northeastern Thailand provides insights into KM implementation in a specific cultural context characterized by strong Buddhist traditions, rural economic challenges, and established community development needs. The successful adaptation of KM principles to this context suggests broader applicability while highlighting the importance of cultural sensitivity in implementation approaches.

The finding that cultural alignment emerged as a significant predictor of implementation success reinforces literature emphasizing the importance of contextual adaptation in organizational interventions (Bijker, 2018; Scott, 2019). This suggests that successful KM implementations in religious contexts require extensive consultation with community stakeholders and systematic attention to theological compatibility.

7.4 Technology Integration in Religious Contexts

The substantial improvement in technology infrastructure scores ($d = 1.58$) following KMSRU implementation provides evidence that religious communities can successfully adopt digital KM tools when implementation approaches address their specific concerns and needs. This finding challenges stereotypes about religious organizations being inherently resistant to technological innovation.

However, the qualitative finding that technology learning curves remained challenging for some participants suggests that successful technology integration in religious contexts requires sustained training support and user-friendly system design. Organizations considering similar initiatives should plan for extended learning periods and ongoing technical assistance.

7.5 Sustainability and Long-term Impact

The 12-month follow-up data revealing 78.6% sustained participation rates provides encouraging evidence for the long-term viability of the KMSRU model. This sustainability rate compares favorably with KM implementation studies in secular organizational contexts, where adoption rates often decline significantly after initial enthusiasm wanes (Ramjeawon & Rowley, 2020).

The identification of leadership continuity as the strongest predictor of sustained usage (Cramer's $V = 0.58$) has important implications for succession planning and institutional development in religious organizations. Communities implementing KM systems should





consider how to maintain organizational knowledge and system expertise across leadership transitions.

7.6 Limitations and Future Research Directions

This study has several limitations that suggest directions for future research. The focus on Buddhist communities in northeastern Thailand limits generalizability to other religious traditions or geographical contexts. Future research should examine KMSRU model applicability across different faith traditions and cultural settings.

The 18-month study period, while substantial for developmental research, may not capture long-term sustainability patterns or evolutionary changes in KM practices. Longitudinal studies extending over multiple years could provide deeper insights into system maturation and adaptation processes.

The reliance on self-reported measures for many outcomes introduces potential response bias, though this was partially mitigated through triangulation across multiple data sources. Future research could incorporate more objective outcome measures, such as documented community development impacts or external evaluations.

7.7 Implications for Policy and Practice

Study findings have several implications for policy and practice in religious organization development and community development more broadly. Government agencies and development organizations working with faith-based partners could benefit from understanding how systematic KM approaches can enhance religious organizations' capacity for community service.

The successful integration of traditional and modern knowledge practices demonstrated in this study suggests that development initiatives should build upon rather than replace existing community knowledge systems. This approach may be particularly relevant in contexts where religious organizations play central roles in community development.

Educational institutions training religious leaders could incorporate KM principles and practices into their curricula to better prepare graduates for contemporary community development challenges. The study provides evidence that systematic KM training can enhance religious leaders' effectiveness without compromising their spiritual orientations.

8. CONCLUSION

This developmental research successfully demonstrates that culturally-adapted knowledge management systems can significantly enhance the effectiveness of Buddhist Sangha communities engaged in community development initiatives. The KMSRU (Knowledge Mission, Sharing, Reflect, and Utilization) model developed and tested in this study provides a replicable framework for integrating systematic knowledge management practices with traditional Buddhist wisdom transmission methods.

8.1 Key Findings Summary

The study's primary findings include:





1. **Baseline Assessment Insights:** Buddhist Sangha communities demonstrated strong cultural foundations for knowledge sharing but lacked systematic approaches for documentation, technology integration, and cross-organizational coordination needed for complex community development initiatives.

2. **Successful Model Development:** The KMSRU model successfully addressed identified needs while respecting Buddhist cultural values and traditional practices, achieving 78.6% sustained adoption rates across participating temples over 12 months.

3. **Significant Performance Improvements:** Implementation resulted in statistically significant improvements across all knowledge management dimensions (effect sizes ranging from $d = 0.47$ to $d = 1.58$) and community development outcomes (effect sizes from $d = 0.63$ to $d = 0.84$).

4. **Critical Success Factors:** Leadership support, cultural alignment, gradual implementation, and sustained training emerged as key predictors of successful adoption and long-term sustainability.

5. **Technology Integration Success:** Religious communities successfully adopted digital KM tools when implementation approaches addressed their specific concerns about authenticity, complexity, and cultural compatibility.

8.2 Theoretical Contributions

This research makes significant contributions to knowledge management theory by demonstrating how established KM frameworks can be effectively adapted for religious organizational contexts. The study challenges assumptions about inevitable tensions between systematic management approaches and traditional religious practices, instead showing how thoughtful integration can strengthen both domains.

The identification of religion-specific success factors extends existing KM literature by highlighting factors particularly relevant in faith-based contexts, including theological compatibility, spiritual leadership support, and community-centered implementation approaches.

8.3 Practical Implications

For religious organizations, the study provides evidence-based guidance for implementing systematic KM initiatives while maintaining authentic spiritual orientations. The KMSRU model offers a practical framework that other faith communities could adapt to their specific contexts and community development needs.

For community development practitioners, results demonstrate how systematic KM can enhance program effectiveness and impact in religious organizational settings. The successful cross-temple collaboration facilitated by the system highlights potential for network-based approaches to community development.

For policymakers and development agencies, findings suggest that investment in religious organizations' KM capabilities can yield substantial returns in terms of community development outcomes and social impact.





8.4 Future Research Directions

Several areas warrant further investigation:

Cross-Cultural Validation: Testing KMSRU model applicability across different religious traditions and cultural contexts to establish broader generalizability.

Longitudinal Impact Studies: Extended follow-up research to examine long-term sustainability patterns and evolutionary changes in KM practices over multiple years.

Objective Outcome Measurement: Integration of external evaluation methods and objective impact measures to complement self-reported effectiveness assessments.

Technology Evolution Impact: Investigation of how emerging technologies (artificial intelligence, mobile applications, social media) might enhance religious KM systems while maintaining cultural authenticity.

Network Effects Analysis: Examination of how inter-organizational KM networks among religious communities can amplify individual organizational effectiveness.

8.5 Final Reflections

This study demonstrates that the intersection of ancient wisdom traditions and contemporary management science need not be characterized by tension or incompatibility. Instead, thoughtful integration can create synergistic approaches that enhance both spiritual authenticity and practical effectiveness in addressing complex social challenges.

The success of the KMSRU model in northeastern Thailand suggests broader potential for faith-based organizations globally to leverage systematic knowledge management for enhanced community development impact. As religious organizations increasingly engage with contemporary social challenges, their capacity to effectively manage and apply knowledge becomes crucial for maximizing their contributions to human welfare and social justice.

The developmental research methodology employed in this study proved particularly valuable for creating practical solutions while generating theoretical insights. This approach may be especially appropriate for research addressing complex organizational challenges in culturally sensitive contexts where stakeholder participation and iterative refinement are essential for success.

Ultimately, this research contributes to growing understanding of how traditional institutions can adapt to contemporary requirements while preserving their essential character and values. The findings offer hope that systematic knowledge management can serve not only organizational effectiveness but also the preservation and transmission of wisdom traditions that have sustained human communities for millennia.

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APPENDICES

Appendix A: Knowledge Management Practices Survey (KMPS) - Sample Items

Knowledge Creation Dimension ($\alpha = 0.89$)

1. Our temple encourages creative approaches to community problem-solving





2. We regularly generate new ideas for improving our community services
3. Innovation in community development is valued and supported
4. We experiment with new methods for addressing social challenges

Knowledge Capture Dimension ($\alpha = 0.87$)

1. We systematically document successful community development practices
2. Important knowledge is recorded and stored for future reference
3. We have effective methods for capturing lessons learned from our activities
4. Knowledge from community projects is preserved for organizational learning

Knowledge Sharing Dimension ($\alpha = 0.91$)

1. Community development knowledge is freely shared among temple members
2. We have regular opportunities to share experiences and insights
3. Cross-temple collaboration and knowledge exchange are encouraged
4. Best practices are communicated effectively throughout our community

Knowledge Application Dimension ($\alpha = 0.84$)

1. We effectively apply knowledge to improve community development outcomes
2. Lessons learned are implemented in future projects and activities
3. Knowledge is used to enhance decision-making processes
4. We successfully transfer knowledge from one project to another

Appendix B: Interview Protocol - Sample Questions

Section 1: Current Knowledge Management Practices

1. How does your temple currently share knowledge about community development activities?
2. What methods do you use to preserve and document important community information?
3. How do you learn from successful and unsuccessful community projects?

Section 2: Technology and Infrastructure

1. What technology tools does your temple currently use for communication and documentation?
2. What are your main concerns about adopting new digital technologies?
3. What support would you need to effectively use digital knowledge management tools?

Section 3: Cultural and Spiritual Considerations

1. How important is it that any knowledge management system aligns with Buddhist principles?
2. What aspects of traditional knowledge transmission should be preserved?
3. How can modern management approaches complement rather than replace Buddhist traditions?



Appendix C: KMSRU Model Implementation Guide

Phase 1: Foundation Building (Months 1-2)

Week 1-2: Leadership Orientation

- Conduct abbot and senior monk workshops
- Introduce KMSRU concepts and benefits
- Address concerns and cultural considerations
- Secure leadership commitment and support

Week 3-4: Knowledge Asset Mapping

- Identify existing knowledge resources and practices
- Document current community development activities
- Assess knowledge gaps and improvement opportunities
- Create baseline documentation systems

Week 5-6: Technology Readiness Assessment

- Evaluate current technological infrastructure
- Identify training needs and resource requirements
- Plan technology deployment and support strategies
- Establish technical support protocols

Week 7-8: Cultural Adaptation Protocols

- Develop culturally-sensitive implementation procedures
- Create training materials incorporating Buddhist principles
- Establish guidelines for respectful integration
- Plan community engagement and participation strategies

Phase 2: System Development (Months 3-5)

Months 3-4: Collaborative Development

- Conduct knowledge mapping exercises with community participation
- Customize digital platforms for temple-specific needs
- Develop training programs and educational materials
- Create user guides and reference documentation

Month 5: Pilot Implementation

- Launch pilot programs in volunteer temples
- Provide intensive training and support
- Monitor usage patterns and collect feedback
- Refine systems based on user experience

Phase 3: Full Implementation (Months 6-9)

Months 6-7: System Rollout

- Deploy KMSRU systems across all participating temples
- Provide comprehensive training to all user groups
- Establish ongoing technical support structures
- Implement monitoring and evaluation procedures





Months 8-9: Optimization and Refinement

- Continuously monitor system performance and usage
- Collect regular feedback from users and stakeholders
- Implement improvements and enhancements
- Document lessons learned and best practices

Appendix D: Statistical Analysis Details

Power Analysis The study was powered to detect medium effect sizes ($d = 0.5$) with 80% power at $\alpha = 0.05$. With the achieved sample size of 864 participants, the study had sufficient power to detect effect sizes as small as $d = 0.3$ for main analyses.

Missing Data Analysis Missing data patterns were analyzed using Little's MCAR test, which indicated data were missing completely at random ($\chi^2 = 89.34$, $df = 127$, $p = 0.99$). Multiple imputation was used for cases with less than 10% missing data, while cases with greater than 10% missing data were excluded from analysis.

Assumption Testing All statistical analyses included comprehensive assumption testing:

- Normality assessed via Shapiro-Wilk tests and visual inspection
- Homogeneity of variance evaluated using Levene's tests
- Independence verified through residual analysis
- Multicollinearity examined via variance inflation factors ($VIF < 3.0$)

Effect Size Interpretation Effect sizes were interpreted using Cohen's conventions:

- Small effect: $d = 0.2$, $\eta^2 = 0.01$, $r = 0.1$
- Medium effect: $d = 0.5$, $\eta^2 = 0.06$, $r = 0.3$
- Large effect: $d = 0.8$, $\eta^2 = 0.14$, $r = 0.5$

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and substantially revised by the authors. The research design, data collection, analysis, and interpretation remained entirely under human oversight and responsibility. This acknowledgment reflects our commitment to transparency in scholarly communication while recognizing the potential value of AI assistance in academic research when used appropriately and ethically.

